[0004] There are currently no approved medications for the treatment of IH. Thus, there is a need in the art for methods of treating IH.

SUMMARY

[0004a] In an aspect of the present disclosure, there is provided a use of a mixed salt oxybate in the manufacture of a medicament for treating idiopathic hypersomnia in a patient in need thereof.

[0004b] In another aspect of the present disclosure, there is provided a use of a mixed salt oxybate in the manufacture of a medicament for treating idiopathic hypersomnia in a patient in need thereof, wherein the mixed salt oxybate comprises about 8% sodium oxybate, about 23% potassium oxybate, about 21% magnesium oxybate and about 48% calcium oxybate (mol. equiv. %).

[0005] In one example, the present disclosure provides methods of treating idiopathic hypersomnia using oxybate, preferably a mixture of salts of oxybate (a mixed salt oxybate). In some examples, the mixed salt oxybate comprises one or more of the following: calcium, sodium, potassium, and magnesium salts.

[0006] In some examples, the mixed salt oxybate comprises about 8% sodium oxybate, about 23% potassium oxybate, about 21% magnesium oxybate and about 48% calcium oxybate (mol. equiv. %).

[0007] In some examples, about 0.5 g-9 g of the mixed salt oxybate is administered per day. In some examples, about 0.5 g of the mixed salt oxybate is administered per day. In some examples, about 0.25 g of the mixed salt oxybate is administered twice per day. In some examples, about 0.17 g of the mixed salt oxybate is administered three times per day. In some examples, about 1.0 g of the mixed salt oxybate is administered per day. In some examples, about 0.5 g of the mixed salt oxybate is administered twice per day. In some examples, about 0.33 g of the mixed salt oxybate is administered three times per day. In some examples, about 1.5 g of the mixed salt oxybate is administered per day. In some examples, about 0.75 g of the mixed salt oxybate is administered twice per day. In some examples, about 0.50 g of the mixed salt oxybate is administered three times per day. In some examples, about 2.0 g of

the mixed salt oxybate is administered per day. In some examples, about 1.0 g of the mixed salt oxybate is administered twice per day. In some examples, about 0.66 g of the mixed salt oxybate is administered three times per day. In some examples, about 2.5 g of the mixed salt oxybate is administered per day. In some examples, about 2.5 g of the mixed salt oxybate is administered once per day. In some examples, about 1.25 g of the mixed salt oxybate is administered twice per day. In some examples, about 0.83 g of the mixed salt oxybate is administered three times per day. In some examples, about 3.0 g of the mixed salt oxybate is administered per day. In some examples, about 3.0 g of the mixed salt oxybate is administered once per day. In some

examples, about 1.5 g of the mixed salt oxybate is administered twice per day. In some examples, about 1.0 g of the mixed salt oxybate is administered three times per day. In some examples, about 3.5 g of the mixed salt oxybate is administered per day. In some examples, about 3.5 g of the mixed salt oxybate is administered once per day. In some examples, about 1.75 g of the mixed salt oxybate is administered twice per day. In some examples, about 1.16 g of the mixed salt oxybate is administered three times per day. In some examples, about 4.0 g of the mixed salt oxybate is administered per day. In some examples, about 4.0 g of the mixed salt oxybate is administered once per day. In some examples, about 2.0 g of the mixed salt oxybate is administered twice per day. In some examples, about 1.32 g of the mixed salt oxybate is administered three times per day. In some examples, about 4.5 g of the mixed salt oxybate is administered per day. In some examples, about 4.5 g of the mixed salt oxybate is administered once per day. In some examples, about 2.25 g of the mixed salt oxybate is administered twice per day. In some examples, about 1.5 g of the mixed salt oxybate is administered three times per day. In some examples, about 5 g of the mixed salt oxybate is administered per day. In some examples, about 5 g of the mixed salt oxybate is administered once per day. In some examples, about 2.5 g of the mixed salt oxybate is administered twice per day. In some examples, about 5.5 g of the mixed salt oxybate is administered per day. In some examples, about 5.5 g of the mixed salt oxybate is administered once per day. In some examples, about 2.75 g of the mixed salt oxybate is administered twice per day. In some examples, about 6 g of the mixed salt oxybate is administered per day. In some examples, about 6 g of the mixed salt oxybate is administered once per day. In some examples, about 3.0 g of the mixed salt oxybate is administered twice per day. In some examples, about 2.0 g of the mixed salt oxybate is administered three times per day. In some examples, about 7.5 g of the mixed salt oxybate is administered per day. In some examples, about 3.75 g of the mixed salt oxybate is administered twice per day. In some examples, about 2.5 g of the mixed salt oxybate is administered three times per day. In some examples, about 9.0 g of the mixed salt oxybate is administered per day. In some examples, about 4.5 g of the mixed salt oxybate is administered twice per day. In some examples, about 3.0 g of the mixed salt oxybate is administered three times per day.

[0008] In some examples, the mixed salt oxybate is administered when the patient wants to go to sleep. In some examples, the mixed salt oxybate is administered at bedtime and about 2.5

h-4 h after the bedtime administration. In some examples, the mixed salt oxybate is administered after a period of sleep.

[0009] In some examples, mixed salt oxybate is in a liquid. In some examples, the concentration of the mixed salt in the liquid is about 0.5 g/mL. In other examples, mixed salt oxybate is a solid.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] FIG. 1 shows the change in mean Epworth Sleepiness Scale (ESS) score during the study described in Example 1 for patients treated with JZP-258 and patients treated with placebo.

[0011] FIG. 2 shows the Patient Global Impression of change (PGIc) for patients treated with JZP-258 and patients treated with placebo at the end of the Double-blind Randomized Withdrawal Period in the study described in Example 1 (p-value<0.0001). *The p-value for comparing the proportion worsened on the PGIc between treatments is from a Cochran-Mantel-Haenszel (CMH) test stratified by baseline medication group.

[0012] FIG. 3 shows the mean Idiopathic Hypersomnia Severity Scale (IHSS) score during the study described in Example 1 for patients treated with JZP-258 and patients treated with placebo.

[0013] FIG. 4 shows the PGIc in the once nightly subset (patients treated once nightly with JZP-258 (n = 15) and patients treated once nightly with placebo (n=11)) at the end of the Double-blind Randomized Withdrawal Period in the modified intent-to-treat (mITT) population from the study described in Example 1.

[0014] FIG. 5 shows the change in mean ESS score during the study described in Example 1 for patients treated once nightly with JZP-258 and patients treated twice nightly with JZP-258 (mITT population) during the Stable Dose Phase.

DEFINITIONS

[0015] Throughout this disclosure, various patents, patent applications and publications are referenced. The disclosures of these patents, patent applications and publications in their entireties are incorporated into this disclosure by reference for all purposes in order to more fully describe

CLAIMS

What is claimed:

1. Use of a mixed salt oxybate in the manufacture of a medicament for treating idiopathic hypersomnia in a patient in need thereof.

2. The use of claim 1, wherein the mixed salt oxybate comprises sodium oxybate, potassium oxybate, magnesium oxybate and calcium oxybate, and wherein the mixed salt oxybate comprises about 5%-40% sodium oxybate (% mol. eq.).

3. The use of claim 2, wherein the mixed salt oxybate comprises about 5%-40% sodium oxybate, about 10%-40% potassium oxybate, about 5%-30% magnesium oxybate, and about 20%-80% of calcium oxybate (% mol. eq.).

4. The use of claim 3, wherein the mixed salt oxybate comprises about 8% sodium oxybate, about 23% potassium oxybate, about 21% magnesium oxybate and about 48% calcium oxybate (% mol. eq.).

5. The use of any one of claims 1-4, wherein:

   (a) an initial daily dose of the mixed salt oxybate is to be administered to the patient, and

   (b) the dose is to be titrated to provide a therapeutically effective amount of the mixed salt oxybate.

6. The use of claim 5, wherein the initial daily dose is from about 0.5 g to about 4.5 g of the mixed salt oxybate.

7. The use of claim 6, wherein the initial daily dose is about 4.5 g of the mixed salt oxybate.

8. The use of any one of claims 5-7, wherein during the titration step (b), ascending doses of the mixed salt oxybate is to be administered.

9. The use of claim 8, wherein the dose is to be increased by about 0.5 g to 1.5 g per week.

10. The use of any one of claims 5-9, wherein the dose is to be titrated from about 1 week to about 10 weeks.

11. The use of any one of claims 1-10, wherein about 0.25 g-10.0 g, 2.0 g-10.0 g; about 3.0 g-9.5 g; or about 4.5 g and 9.0 g of the mixed salt oxybate is to be administered per day.

12. The use of any one of claims 1-11, wherein the mixed salt oxybate is to be administered twice per day.

13. The use of any one of claims 1-11, wherein the mixed salt oxybate is to be administered once per day.

14. The use of any one of claims 1-11, wherein the mixed salt oxybate is to be administered three times per day.

15. The use of any one of claims 1-14, wherein about 2.25 g of the mixed salt oxybate is to be administered per day.

16. The use of any one of claims 1-14, wherein about 6 g of the mixed salt oxybate is to be administered per day.

17. The use of claim 16, wherein about 3 g of the mixed salt oxybate is to be administered twice per day.

18. The use of any one of claims 1-14, wherein about 7.5 g of the mixed salt oxybate is to be administered per day.

19. The use of claim 18, wherein about 3.75 g of the mixed salt oxybate is to be administered twice per day.

20. The use of any one of claims 1-14, wherein about 9 g of the mixed salt oxybate is to be administered per day.

21. The use of claim 20, wherein about 4.5 g of the mixed salt oxybate is to be administered twice per day.

22. The use of any one of claims 1-21, wherein the mixed salt composition is a liquid.

23. The use of claim 22, wherein the concentration of the mixed salt in the liquid is from 350 mg/ml-650 mg/ml, or about 450 mg/ml-550 mg/ml.

24. The use of claim 23, wherein the concentration of the mixed salt in the liquid is about 0.5 g/mL.

25. The use of any one of claims 1-21, wherein the composition is a solid.

26. The use of claim 25, wherein the solid is formed in coated granules.

27. The use of any one of claims 1-26, wherein the mixed salt oxybate is to be administered at bedtime.

28. The use of any one of claims 1-27, wherein the mixed salt oxybate is to be administered at bedtime and about 2.5 h-4 h after the bedtime administration.

29. Use of a mixed salt oxybate in the manufacture of a medicament for treating idiopathic hypersomnia in a patient in need thereof,

wherein the mixed salt oxybate comprises about 8% sodium oxybate, about 23% potassium oxybate, about 21% magnesium oxybate and about 48% calcium oxybate (mol. equiv. %).

30. The use of claim 29, wherein:

(a) an initial daily dose of the mixed salt oxybate is to be administered to the patient and

(b) the dose is to be titrated to provide a therapeutically effective amount of the mixed salt oxybate.

31. The use of claim 30, wherein the initial daily dose is from about 0.5 g to about 4.5 g of the mixed salt oxybate per day.

32. The use of claim 31, wherein the initial daily dose is about 4.5 g of the mixed salt oxybate per day.

33. The use of any one of claims 30-32, wherein during the titration step (b), ascending doses of the mixed salt oxybate is to be administered.

34. The use of claim 33, wherein the dose is increased by about 0.5 g to 1.5 g per week.

35. The use of any one of claims 30-32, wherein during the titration step (b), descending doses of the mixed salt oxybate is to be administered.

36. The use of claim 35, wherein the dose is decreased by about 0.5 g to 9.0 g per week.

37. The use of any one of claims 30-36, wherein during the titration step (b), the patient is to be switched from a once a day dose to a twice a day dose of the mixed salt oxybate.

38. The use of any one of claims 30-32, wherein during the titration step (b), the patient is to be switched from a twice a day dose to a three times a day dose of the mixed salt oxybate.

39. The use of any one of claims 30-36, wherein during the titration step (b), the patient is to be switched from a twice a day dose to a once a day dose of the mixed salt oxybate.

40. The use of any one of claims 30-36, wherein during the titration step (b), the patient is to be switched from a three times a day dose to a twice a day dose of the mixed salt oxybate.

41. The use of any one of claims 30-40, wherein the titration step (b) is from about 1 week to about 14 weeks.

42. The use of any one of claims 29-41, wherein about 0.25 g-10.0 g, 2.0 g-10.0 g; about 3.0 g-9.5 g; or about 4.5 g and 9.0 g of the mixed salt oxybate is to be administered per day.

43. The use of any one of claims 29-42, wherein the mixed salt oxybate is to be administered twice per day.

44. The use of any one of claims 29-42, wherein the mixed salt oxybate is to be administered once per day.

45. The use of any one of claims 29-42, wherein the mixed salt oxybate is to be administered three times per day.

46. The use of any one of claims 29-45, wherein about 4.5 g of the mixed salt oxybate is to be administered per day.

47. The use of claim 46, wherein about 2.25 g of the mixed salt oxybate is to be administered twice per day.

48. The use of any one of claims 29-45, wherein about 6 g of the mixed salt oxybate is to be administered per day.

49. The use of claim 48, wherein about 3 g of the mixed salt oxybate is to be administered twice per day.

50. The use of any one of claims 29-45, wherein about 7.5 g of the mixed salt oxybate is to be administered per day.

51. The use of claim 50, wherein about 3.75 g of the mixed salt oxybate is to be administered twice per day.

52. The use of any one of claims 29-45, wherein about 9 g of the mixed salt oxybate is to be administered per day.

53. The use of claim 52, wherein about 4.5 g of the mixed salt oxybate is to be administered twice per day.

54. The use of any one of claims 29-53, wherein the mixed salt composition is a liquid.

55. The use of claim 54, wherein the concentration of the mixed salt in the liquid is from 350 mg/ml-650 mg/ml, or about 450 mg/ml-550 mg/ml.

56. The use of claim 55, wherein the concentration of the mixed salt in the liquid is about 0.5 g/mL.

57. The use of any one of claims 29-53, wherein the mixed salt is in the form of a solid.

58. The use of any one claims 1-57, wherein the use provides adequate sleep duration.

59. The use of claim 11 or 42, wherein about 4.5 g-6.0 g of the mixed salt oxybate is to be administered once per day.

60. The use of any one of claims 1-59, wherein the mixed salt oxybate is to be administered without regard to food.

61. The use of any one of claims 1-59, wherein the patient is to be administered the mixed salt oxybate composition at least 2 h after the patient’s last meal.